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17 March 2010

Dear sir

The Energy Efficiency Council welcomes the opportunity to provide a submission to the Australian Capital Territory (ACT) Government's *Draft Sustainable Energy Policy 2010-2020*.

As the peak body for companies that deliver cutting-edge energy efficiency services, the Energy Efficiency Council has extensive on-ground expertise in the commercial reality of technology and policy relating to greenhouse emissions and energy generation, distribution and use.

The Energy Efficiency Council commends the Draft Sustainable Energy Policy for its strong focus on energy efficiency. Implementation of the policy will be as critical as design.

Energy efficiency is the largest opportunity for cutting emissions by 2020. The International Energy Agency estimates that 65 per cent of global carbon cuts to 2020 will come from energy efficiency. Investing in energy efficiency also delivers positive returns to the economy.

The Energy Efficiency Council supports the proposed actions in the Draft Sustainable Energy Policy to set an energy efficiency goal, introduce an "energy efficiency certificate scheme" and implement the National Strategy on Energy Efficiency. The Council recommends:

- An 'energy efficiency goal' for ACT should also be expressed in either improvement in energy efficiency or total energy savings. An energy efficiency goal that is only expressed in emission reductions does not reflect the multiple benefits of energy efficiency and would be complicated by changes in the greenhouse-intensity of energy.
- ACT should strongly advocate for a national energy efficiency certificate scheme that includes commercial buildings and large energy users. If a national scheme is not possible ACT should introduce the NSW model and harmonise it with schemes in other states.
- ACT should undertake energy market reform and advocate reform of the National Electricity Market to enable demand-side activities to reduce the cost of energy supply.
- ACT should create dedicated programs in sectors with the most cost-effective opportunities for energy efficiency. These are:
 - o Retrofitting commercial buildings through a scheme that provides access to capital, builds capacity and links building owners with energy efficiency service providers
 - o Improving the energy efficiency of government operations, focusing immediately on setting up a clear funding stream for energy efficiency upgrades in buildings
 - o Working directly with larger energy users

Please do not hesitate to contact me on 03 8327 8423 should you require further information on any of the issues raised in this submission.

Yours sincerely



Rob Murray-Leach
Chief Executive Officer

1. The Energy Efficiency Council

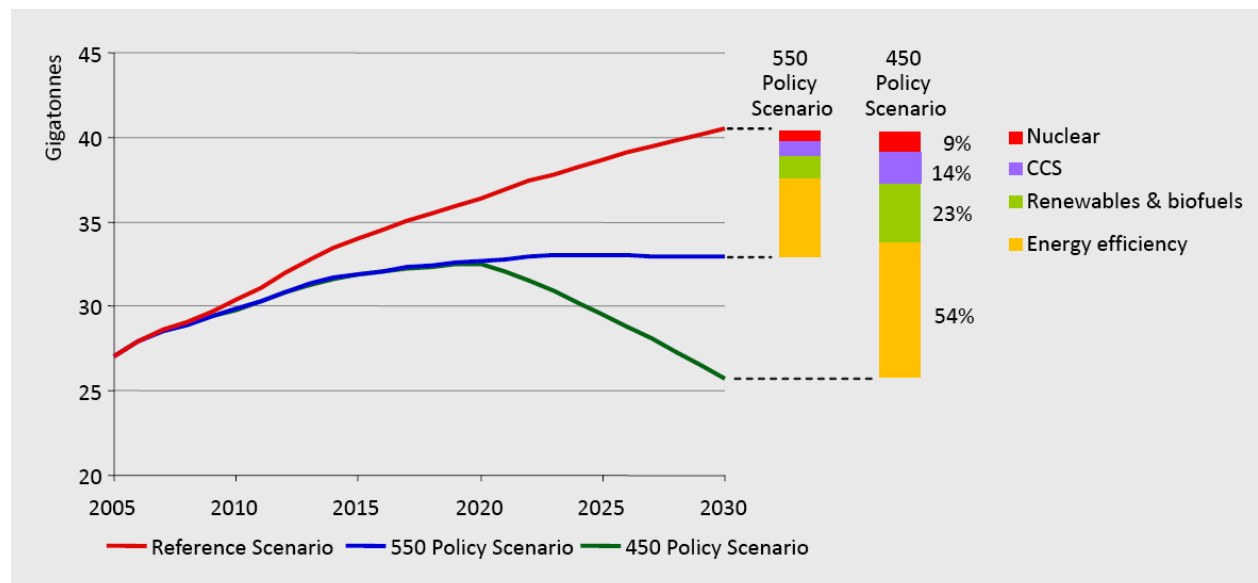
The Energy Efficiency Council is the Peak body for commercial and industrial energy efficiency. The Council aims to build the market for energy efficiency products and services and ensure that energy efficiency is implemented with excellence and accountability.

2. The importance of energy efficiency

There are significant economic drivers for energy efficiency policy even in the absence of climate change. When a company invests in cost-effective energy efficiency it improves their overall efficiency and productivity. These savings help businesses save money, improve productivity and retain staff, while creating new jobs in energy efficiency. As a result tapping into Australia's full energy efficiency policy would increase GDP, even in the absence of a carbon price. As stated by US President Barack Obama:

“One of the fastest, easiest and cheapest ways to make our economy stronger and cleaner is to make our economy more energy efficient.”

The drivers for energy efficiency are more substantial in a carbon constrained economy. Energy efficiency is the largest and most cost effective source of greenhouse gas reduction. The Australian Bureau of Agricultural and Research Economics estimates that energy efficiency will account for around 55 per cent of Australian emission abatement to 2050 (Gurney et al 2007). Similarly, the International Energy Agency (IEA) estimates that energy efficiency will account for 65 per cent of global emission abatement to 2020 (and 54 per cent to 2030) in a scenario where global carbon dioxide levels stabilise at 450ppm.



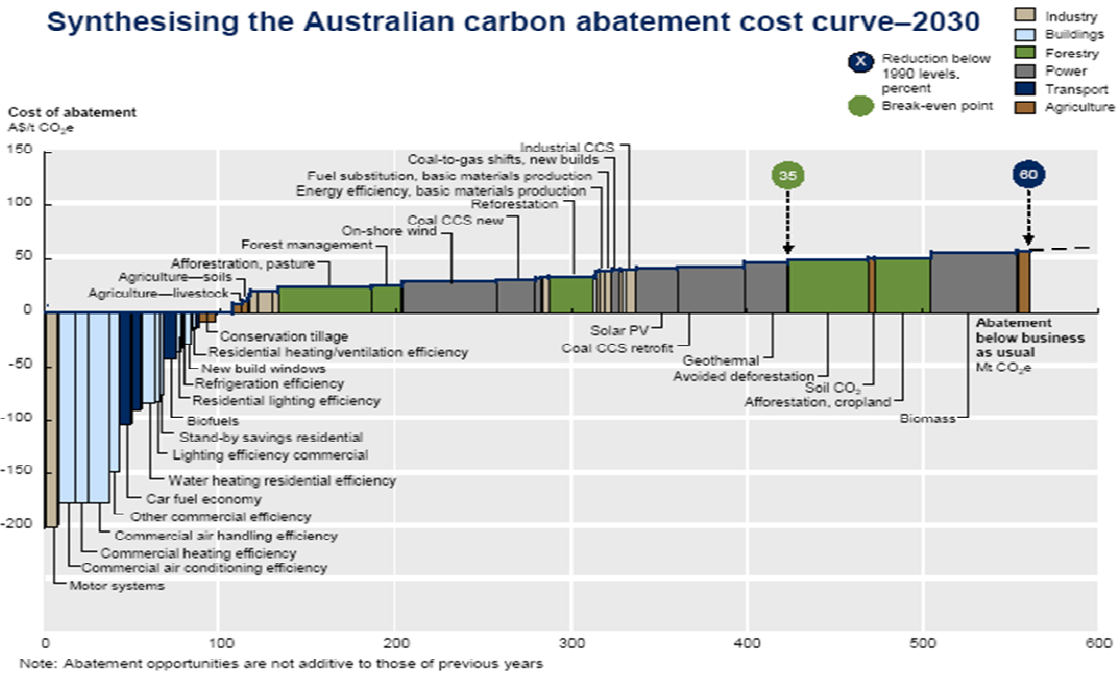
Source: IEA World Energy Outlook 2008

Both the ABARE and IEA estimates are likely to underestimate the potential contribution of energy efficiency to emissions abatement. Many real-life energy efficiency projects have demonstrated significantly greater cost-effective energy efficiency opportunities than assumed in these projections. The Energy Efficiency Opportunities Program requires companies to investigate their options to save energy. These investigations unearthed substantial savings, with one company finding over 5 Petajoules of savings at a single site, equivalent to the energy use of around 100,000 households.

The International Panel on Climate Change notes that its own estimates of the energy efficiency potential in buildings is likely to be lower than the real potential: *“Due to the limited number of demand-side end-use efficiency options considered by the studies, the omission of non-technological options, the often significant co-benefits, as well as the exclusion of advanced integrated highly efficiency buildings.”* (Metz et al 2007 p409).

In addition to being the largest source of emission abatement, energy efficiency is widely acknowledged as the most cost-effective form of abatement. The 'McKinsey curve' (below) indicates that the most cost-effective opportunities for abatement are in energy efficiency, to the left of the curve. As a result, the economic cost of tackling climate change in Australia will be substantially higher if we fail to mobilise the potential for energy efficiency.

While many forms of abatement policy need to be pursued in parallel, this means that governments should put the highest priority on delivering abatement over the next ten years through energy efficiency, as opposed to more expensive forms of abatement.



Source: McKinsey and Company 2008

In fact, the level of cost-effective energy efficiency could rise rapidly in Australia with increasing prices for fuel and electricity distribution. IPART has estimated that expenditure on transmission and distribution infrastructure could increase electricity prices in some regions by 35 per cent. This means that energy efficiency standards and policies must be based on reasonable projections of future energy prices, rather than incorrectly assuming a continuation of current energy prices.

Energy efficiency is not only critical for protecting the economy, it is also a substantial economic opportunity. HSBC estimate that global revenue from climate-related businesses grew 75 percent over the past year to reach US\$530 billion in 2009, and project that revenue will reach US\$2 trillion in 2020. Energy efficiency is one of the fastest growing areas of climate-related business, accounting for 31 per cent of climate-related revenue in 2009. If Australia can position itself as a regional hub for exporting energy efficiency technology and services it would significantly benefit the economy. However, to become an export market it will need to have a strong domestic market for energy efficiency.

The Energy Efficiency Council commends the ACT Government's *Draft Sustainable Energy Policy 2010-2020* for focusing on energy efficiency.

3. Policy overview

The Energy Efficiency Council supports the rapid introduction of a strong and effective carbon price. The ACT *Draft Sustainable Energy Policy 2010-2020* should recognise the importance of a carbon price.

However, a range of existing market distortions and market failures means that additional policies are required to mobilise Australia's energy efficiency potential.

Complementary policies are critical for four main reasons:

1. There are substantial market distortions and market failures that impede energy efficiency
2. Even in the absence of climate change, the efficiency of Australia's businesses will affect their competitiveness, but in a carbon constrained global economy it will be critical.
3. If Australia fails to tap into the largest and most cost-effective form of abatement it will significantly increase the economic impact of tackling climate change.
4. Fostering cost-effective domestic abatement will demonstrate that emissions reductions and economic growth can go hand-in-hand. This is critical for global negotiations.

Energy efficiency policies and programs need to:

1. Drive as much cost-effective energy efficiency as possible. The level of energy efficiency that is cost-effective will be affected by all costs (capital, labour and program costs) and all benefits (energy savings, energy infrastructure savings, productivity improvements, health and greenhouse reductions).
2. Focus on tackling market failures and existing market distortions.
3. Address the full range of market failures and distortions to unlock the full potential for energy efficiency. Where multiple barriers impede energy efficiency, each barrier needs to be addressed to deliver energy efficiency at the lowest cost.
4. Have sufficient funding to drive cost-effective energy efficiency, but be cost-effective so that each dollar invested in a program drives the maximum amount of energy efficiency.

4. Market distortions and market failures that impede energy efficiency

The failure to internalise the cost of carbon in the cost of energy is only one of the barriers to energy efficiency. Extensive studies have identified a range of other market failures and market distortions that are well accepted by experts.

The current National Electricity Market (NEM) rules and regulations create substantial market distortions. The NEM rules attempt to create a competitive market in a complex situation involving monopoly grid supply and semi-competitive generation and retail markets. A wide variety of experts, including the Parer Review and Professor Garnaut, have identified flaws in the current NEM rules that favour established supply-side options (i.e. expanding centralised generation and the grid) over demand-side options (energy efficiency and distributed generation).

One flaw centres on the opportunity to acquire new electricity distribution capacity through energy efficiency and distributed generation sources. Where there is a need for new capacity in the grid, distributors have the option of either investing in increased network infrastructure or investing in energy efficiency and distributed generation to reduce peak demand. Although investing in energy efficiency and distributed generation would often provide the same capacity at much lower costs to the public, the NEM rules strongly favour investing in networks and centralised supply.

Even in the absence of climate change these flaws should be tackled, as they distort the energy market, increasing energy supply costs for households and businesses. With climate change, the imperative to address these flaws is even stronger.

Addressing the failures in the NEM is critical to helping Australia lower the cost of meeting its greenhouse targets. Tackling these failures is strongly complementary to the CPRS, as it will remove existing distortions rather than create an additional driver for emissions reduction. Completely resolving the full range of these complex issues will not occur overnight. However, governments can make significant inroads now through a number of core programs.

There are also a range of well-established market failures, which are discussed in more detail in the Garnaut Review and the sources listed in the references at the end of this submission. The following list of market failures affecting energy efficiency is not exhaustive:

Externalities	In addition to the carbon externality, energy efficiency has spillover benefits such as reduced network infrastructure costs. As noted above, the NEM rules currently fail to reward companies for delivering these benefits.
Early mover spillovers	Support for research and development is required to extend the potential of energy efficiency
Principal agent problems	The incentives facing landlords, tenants and building managers are frequently not aligned, resulting in sub-optimal outcomes
Public good information, information spillovers & information asymmetry	Many homeowners, companies and specialists lack information on energy efficiency due to a range of market failures. With information asymmetry this can impede coordination between parties. Information gaps are not minor problems; they can entirely impede otherwise cost-effective energy efficiency
Bounded rationality and organisational failures	Even with access to information, individuals and organisations can fail to recall, process or use information effectively

These market failures interact to create emergent problems. For example, bounded rationality and gaps in knowledge within companies and financial institutions can impede access to capital for energy efficiency projects. In particular, governments' budgetary policies can be a significant impediment to cost-effective energy efficiency projects. Therefore, directly addressing access to capital can overcome multiple market-failures.

Similarly, principal-agent problems, serious gaps in knowledge and bounded rationality create barriers throughout a supply chain, impeding the entry and diffusion of novel technologies. For this reason, market transformation approaches that consider the whole supply chain can be more effective than addressing each part of the chain separately.

5. Setting Energy Efficiency Targets

The ACT Government is proposing to set a goal that “energy efficiency measures will aim to reduce ACT greenhouse gas emissions by at least 10 per cent.” (*Draft Sustainable Energy Policy, p5*).

The Energy Efficiency Council supports the ACT Government’s proposal to introduce a clear goal for energy efficiency. Given the need to introduce a range of dedicated energy efficiency policies, an energy efficiency goal can help provide clear, long-term guidance to policy makers.

Major global powers have recently set energy efficiency goals. These include:

EU The European Union has set a target to reduce primary energy use by 20 per cent below business-as-usual by 2020.

China China set a goal to reduce the energy intensity of its economy by 20 per cent between 2006 and 2010, and by 2009 had already reduced its energy intensity by 14 per cent. China has now set a new goal to reduce the greenhouse intensity of the economy by 40 to 45 per cent by 2020.

Russia President Dmitry Medvedev set a goal of reducing the energy intensity of the Russian economy by 40 per cent by 2020 (above the 2005 baseline)

The goals in other countries are either set in energy intensity or total energy demand, reflecting the multiple benefits of energy efficiency which include:

- Mitigating greenhouse gas emissions
- Improved energy security
- Energy affordability.

The Energy Efficiency Council recommends that the ACT Government complement its goal, which is currently expressed in reductions in greenhouse gas emissions, with a goal that is expressed in a reduction of total energy demand or decrease in energy intensity. In the absence of a national energy efficiency goal, the Energy Efficiency Council recommends that ACT aim to reduce energy demand by 20 per cent below business-as-usual by 2020.

6. Energy Efficiency Certificate Schemes

The Draft Sustainable Energy Policy 2010-2020 states that the ACT Government will aim to “introduce in 2010 legislation that will require energy businesses to identify and provide energy efficiency products and services to ACT customers, with priority given to low-income and other disadvantaged households.

The Energy Efficiency Council supports the introduction of schemes that attempt to address flaws in the National Energy Market through means such as ‘energy efficiency certificates’. Such schemes are most effective if they are strong, national and carefully designed. The Council recommends that the ACT Government advocate strongly for a single national energy efficiency scheme.

If the Commonwealth Government does not agree to implement such a scheme prior to the election, the ACT Government should implement an identical scheme to the NSW scheme, and work with South Australia, Victoria and Queensland to harmonise all schemes so that they are fully harmonised and certificates created in one scheme are fungible.

7. National Energy Market reform

Addressing the failures in the NEM is critical to helping Australia lower the cost of meeting its greenhouse targets. Tackling these failures is strongly complementary a price on carbon or ‘abatement purchasing’ as it will remove existing distortions, rather than create an additional driver for emissions reduction.

Given the time horizon for asset decisions already and price determinations already made, full NEM reform to achieve this will take at least a decade to address issues like time-of-use pricing and full marginal pricing for increased peak demand. However, there is enough evidence to warrant designing schemes that reallocate existing spending on network augmentation to less greenhouse intensive, more cost effective activities.

The Energy Efficiency Council recommends that the ACT Government

- Undertake targeted reforms to reduce barriers to distributed generation, particularly cogeneration.
- Advocate for a comprehensive national review of the NEM by a panel of independent experts
- Advocate for an immediate national solution to encourage distributors to invest in demand-side activities. Simultaneously, the ACT should require the local electricity distributors to invest 10 per cent of their expenditure over the next 5 years in demand-management.

8. Targeted programs in the most cost-effective opportunities.

The ACT Government should focus on the largest and most cost-effective opportunities for energy efficiency. Some of these have received limited attention in the Draft Sustainable Energy Policy. The key areas are:

- Energy efficiency in government operations
- Retrofitting existing commercial buildings.
- Working with large energy users

9. Energy Efficiency in ACT Government Operations

Inefficient energy use wastes taxpayers' money. When governments waste energy they waste money that could be spent on services like police and healthcare. The Australian National Audit Office estimated that the Australian Government wastes \$75 million each year simply by failing to meet its existing energy efficiency targets

Investing in energy efficiency is simply prudential financial management, and can deliver rates of return that exceed 20 per cent. Investing in energy efficiency is also critical to protect budgets from rising energy prices. Wholesale energy prices increased by 40 percent between 1990 and 2009 and will continue to rise over the next decade.

Government leadership will also transform the market for energy efficiency. Governments need to lead by example if they are going to encourage businesses and households to reduce their emissions. However, governments' actions do far more than just demonstrate good practice. Governments occupy 32 per cent of Australia's commercial buildings and purchasing decisions by governments could dramatically improve the availability and lower the cost of energy efficient buildings and products in Australia.

Governments need clear policies to improve their own energy efficiency. The Council of Australian Governments (COAG) and individual governments have publicly committed to improve their own energy efficiency. However, most governments have made very poor progress so far, because they lack the key policies they need to drive energy efficiency, particularly around access to capital.

The Energy Efficiency Council recommends that the ACT Government:

- Commit to a clear funding path for energy efficiency. Agencies need access to capital to invest in energy efficiency through revolving funds, third party finance or similar. The ACT Government should provide access to finance each year equivalent to at least 25 per cent of its total energy spend.
- Mandate agencies to upgrade the energy efficiency of their top energy using sites by 2012, accounting for 30 percent of their energy use, and by 2020 cover off on their remaining major sites, to cover 80 per cent of agency energy use.
- Appoint one agency to lead on energy efficiency across the whole Government, and provide them with the resources to assist agencies to implement energy efficiency.
- All agencies must publicly report their progress on an annual basis, and publicly disclose NABERS tenancy ratings for all owned or leased offices over 1000m²

Case Study: Queensland Health

Queensland Health established a Carbon Management Unit in 2004. The Unit worked with energy and water experts to upgrade 18 sites, cutting emissions by 43,176 tonnes CO₂ per each year.

Queensland Health invested \$1.2 million to reduce energy and water use at Logan Hospital. The upgrade cut electricity use by 19 per cent and gas use by 38 per cent. This saves the hospital \$220,000 every year, an internal rate of return of 18.7 per cent.



Logan Hospital

The ACT Government is also in a unique position to influence the energy efficiency of the Australian Government. The Australian Government uses 9 million Gigajoules of energy in 2006-07 (ANAO 2009), equivalent to the energy use of half a million Australians. If the Australian Government reduced its energy use by 30 per cent, it could save at least \$130 million per annum. The Energy Efficiency Council recommends that the ACT Government work closely with the Australian Government to support it to increase its energy efficiency.

Finally, the ACT Government has a critical role in building the capacity in this energy efficiency services sector. If the ACT Government demands that energy efficiency providers are accredited it will drive up the quality of the sector. The Energy Efficiency Council recommends that the ACT adopt approve industry accreditation schemes and standards like the International Performance Measurement and Verification Protocol

10. The Commercial Building Sector

The commercial building sector must be a priority area for climate change policy as, along with industry, it is one of the largest and most cost-effective sources of abatement in the economy:

- Commercial buildings account for around 13 per cent of Australia's emissions. The Centre for International Economics (2007) estimates that emissions from commercial buildings could be reduced by 35 per cent, which at today's emission levels would be equivalent to reducing Australia's emissions by 4.6 per cent.
- McKinsey and Company (2008) estimate that energy efficiency in the commercial building sector saves an average of \$130 for each tonne of CO₂^e abatement.
- The Centre for International Economics (2007) estimates that tackling energy efficiency in the building sector would save the Australian economy \$38 billion per annum by 2050.
- Davis Langdon (2009) estimated that a major refit of Australia's commercial buildings would create 27,000 jobs each year over the next decade.
- Energy efficiency upgrades deliver improved indoor environments and a number of studies have indicated this increased staff productivity by 5 to 10 per cent.

Energy efficiency policies must focus on retrofitting existing buildings. Standards for new buildings are important, but the energy used in existing buildings over the next 20 years will dwarf the energy from buildings constructed after 2009. Long-term historical trends suggest that existing buildings will account for around 65 per cent of the building stock in 2030, and over the period 2010-2030 will produce well over ten times the emissions from new buildings.

Along with cross sectoral measures (energy efficiency schemes and NEM reform) the ACT government should focus on:

- Ensuring that building owners have access to capital for energy efficiency upgrades through financing schemes
- Building the capacity of the property sector by assisting building owners and tenants to become more informed about the opportunities for energy efficiency upgrades
- Building the capacity of the energy efficiency services sector through funding for training programs, including measurement and verification.

11. Large Energy Users

The ACT includes relatively few large energy users, compared to other Australian jurisdictions. However, the fundamental principal of focusing on the largest energy users in the state remains appropriate.

The Energy Efficiency Council recommends that the ACT Government identify its largest energy users, and engage with the Council to develop strategies to improve their efficiency.

References and further reading

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